PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To: JANE MASSEY LICATA
LAW OFFICES OF JANE MASSEY LICATA
66 E. MAIN STREET
MARLTON, NEW JERSEY 08053

Docket System ✓
Status Report ✓
Docket Book ✓

NP = 4-19-01

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing *(day/month/year)*	08 FEB 2001
Applicant's or agent's file reference: DEX-0052	**IMPORTANT NOTIFICATION**

International application No.	International filing date *(day/month/year)*	Priority Date *(day/month/year)*
PCT/US99/24331	18 OCTOBER 1999	19 OCTOBER 1998

Applicant
DIADEXUS LLC

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US	Authorized officer
Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	GEETHA P. BANSAL Dorothea Laurence for
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0196

Form PCT/IPEA/416 (July 1992)★

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference DEX-0052	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US99/24331	International filing date *(day/month/year)* 18 OCTOBER 1999	Priority date *(day/month/year)* 19 OCTOBER 1998
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant DIADEXUS LLC		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets.

   ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

   I ☒ Basis of the report

   II ☐ Priority

   III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability

   IV ☐ Lack of unity of invention

   V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   VI ☐ Certain documents cited

   VII ☐ Certain defects in the international application

   VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
09 MAY 2000	19 JANUARY 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer Dorethia Lawrence for GEETHA P. BANSAL
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0196

Form PCT/IPEA/409 (cover sheet) (July 1998) ★

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US99/24331 .

I. Basis of the report

1. With regard to the **elements** of the international application:*

[X] the international application as originally filed

[X] the description:
pages 1-46 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the claims:
pages 47-48 , as originally filed
pages NONE , as amended (together with any statement) under Article 19
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the drawings:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the sequence listing part of the description:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

[ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

[ ] the language of publication of the international application (under Rule 48.3(b)).

[ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

[ ] contained in the international application in printed form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readable form.

[ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] The statement that the information recorded in computer readable form is identical to the writen sequence listing has been furnished.

4. [X] The amendments have resulted in the cancellation of:

[X] the description, pages NONE

[X] the claims, Nos. NONE

[X] the drawings, sheets/~~fig~~ NONE

5. [ ] This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

***Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US99/24331

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. statement

Novelty (N)	Claims	7	YES
	Claims	1-6	NO
Inventive Step (IS)	Claims	NONE	YES
	Claims	1-7	NO
Industrial Applicability (IA)	Claims	1-7	YES
	Claims	NONE	NO

2. citations and explanations (Rule 70.7)

Claims 1-6 lack novelty under PCT Article 33(2) as being anticipated by Olsson et al (1997) and Cho-Chung et al (1993).

The claims are drawn to methods of diagnosing, staging and monitoring the metastatic potential of prostate cancer by identifying or detecting an increase in CSGs or cancer specific genes, in a patient. The claims are also drawn to a method of identifying therapeutic agents that bind to CSGs. Olsson et al teach the diagnosis, staging, monitoring metastasis of prostate cancer. Olsson et al teach that tumor cells exhibit abnormally rearranged or mutated genes that are not present in normal cells (these can be considered cancer specific genes). Olsson et al teach RT-PCR as well as quantitative RT-PCR technology as applicable to the above mentioned methods, and applying the technology to various tissue and body fluid samples.
Cho-Chung et al teach the use of nucleic acid in the therapy of neoplasia with specific reference to anti-sense oligonucleotides. The disclosure of Cho-Chung et al inherently teaches a method of identifying potential candidates that will bind to the CSGs in prostate cancer.

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Olsson et al (1997) and Cho-Chung et al (1993).The claims are drawn to methods of diagnosing, staging and monitoring the metastatic potential of prostate cancer by identifying or detecting an increase in CSGs or cancer specific genes, in a patient wherein the CSGs comprise the SEQ IDs recited in the claims. The claims are also drawn to a method of identifying therapeutic agents that bind to the said CSGs. Olsson et al teach the diagnosis, staging, monitoring metastasis of prostate cancer. Olsson et al teach that tumor cells exhibit abnormally rearranged or mutated genes that are not present in normal cells (these can be considered cancer specific genes). Olsson et al teach RT-PCR as well as quantitative RT-PCR technology as applicable to the above mentioned methods, and applying the technology to various tissue and body fluid samples.
Cho-Chung et al teach the use of nucleic acid in the therapy of neoplasia with specific reference to anti-sense oligonucleotides. (Continued on Supplemental Sheet.)

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

CLASSIFICATION:

The International Patent Classification (IPC) and/or the National classification are as listed below:
IPC(7): A61K 39/395, 48/00; C12P 19/34; C12Q 1/68; G01N 33/53, 33/574, 33/546, 33/567 and US Cl.: 424/130.1, 141.1, 155.1, 183.1; 435/6, 7.1, 7.23, 7.9, 91.2; 436/501, 504, 505, 547; 514/44; 536/23.5

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):
The disclosure of Cho-Chung et al inherently teaches a method of identifying potential candidates that will bind to the CSGs in prostate cancer. Though the above cited art do not specifically mention the SEQ ID Nos, it would have been obvious to one of ordinary skill in the art at the time of the invention to extend the methods wherein the PSA or PMSA have been replaced with the SEQ ID NOs recited in the claims. One of ordinary skill in the art would have been motivated to do so because the prior art teaches that cancer specific genes include any genes that are expressed by cancer cells and not by normal cells. Absent any unexpected results by the inclusion of the SEQ ID Nos recited in the claims , the use of these sequences in a method of diagnosing, staging and monitoring the metastatic potential of prostate cancer would have been obvious to do f or one of ordinary skill ion the art.

---------- NEW CITATIONS ----------
NONE

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
United States Patent and Trademark Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 08 June 2000 (08.06.00)	
International application No. PCT/US99/24331	**Applicant's or agent's file reference** DEX-0052
International filing date (day/month/year) 19 October 1999 (19.10.99)	**Priority date** (day/month/year) 19 October 1998 (19.10.98)
Applicant SALCEDA, Susana et al	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

09 May 2000 (09.05.00)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer C. Villet
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	**ES**	Spain	**LS**	Lesotho	**SI**	Slovenia
AM	Armenia	**FI**	Finland	**LT**	Lithuania	**SK**	Slovakia
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AU	Australia	**GA**	Gabon	**LV**	Latvia	**SZ**	Swaziland
AZ	Azerbaijan	**GB**	United Kingdom	**MC**	Monaco	**TD**	Chad
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CI	Côte d'Ivoire	**KP**	Democratic People's Republic of Korea	**NZ**	New Zealand		
CM	Cameroon			**PL**	Poland		
CN	China	**KR**	Republic of Korea	**PT**	Portugal		
CU	Cuba	**KZ**	Kazakstan	**RO**	Romania		
CZ	Czech Republic	**LC**	Saint Lucia	**RU**	Russian Federation		
DE	Germany	**LI**	Liechtenstein	**SD**	Sudan		
DK	Denmark	**LK**	Sri Lanka	**SE**	Sweden		
EE	Estonia	**LR**	Liberia	**SG**	Singapore		

PATENT COOPERATION TREATY

RECD 13 FEB 2001
WIPO PCT

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference DEX-0052	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US99/24331	International filing date *(day/month/year)* 18 OCTOBER 1999	Priority date *(day/month/year)* 19 OCTOBER 1998
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant DIADEXUS LLC		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets.

   ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

   I ☒ Basis of the report

   II ☐ Priority

   III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability

   IV ☐ Lack of unity of invention

   V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   VI ☐ Certain documents cited

   VII ☐ Certain defects in the international application

   VIII ☐ Certain observations on the international application

Date of submission of the demand 09 MAY 2000	Date of completion of this report 19 JANUARY 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer GEETHA P. BANSAL Telephone No. (703) 308-0196

Form PCT/IPEA/409 (cover sheet) (July 1998) ★

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US99/24331

I. Basis of the report

1. With regard to the **elements** of the international application:*

[X] the international application as originally filed

[X] the description:
pages 1-46 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the claims:
pages 47-48 , as originally filed
pages NONE , as amended (together with any statement) under Article 19
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the drawings:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the sequence listing part of the description:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

[ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

[ ] the language of publication of the international application (under Rule 48.3(b)).

[ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

[ ] contained in the international application in printed form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readable form.

[ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] The statement that the information recorded in computer readable form is identical to the writen sequence listing has been furnished.

4. [X] The amendments have resulted in the cancellation of:

[X] the description, pages NONE

[X] the claims, Nos. NONE

[X] the drawings, sheets/~~fig~~ NONE

5. [ ] This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

***Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US99/24331

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. statement

Novelty (N)	Claims	7	YES
	Claims	1-6	NO
Inventive Step (IS)	Claims	NONE	YES
	Claims	1-7	NO
Industrial Applicability (IA)	Claims	1-7	YES
	Claims	NONE	NO

2. citations and explanations (Rule 70.7)

Claims 1-6 lack novelty under PCT Article 33(2) as being anticipated by Olsson et al (1997) and Cho-Chung et al (1993).

The claims are drawn to methods of diagnosing, staging and monitoring the metastatic potential of prostate cancer by identifying or detecting an increase in CSGs or cancer specific genes, in a patient. The claims are also drawn to a method of identifying therapeutic agents that bind to CSGs. Olsson et al teach the diagnosis, staging, monitoring metastasis of prostate cancer. Olsson et al teach that tumor cells exhibit abnormally rearranged or mutated genes that are not present in normal cells (these can be considered cancer specific genes). Olsson et al teach RT-PCR as well as quantitative RT-PCR technology as applicable to the above mentioned methods, and applying the technology to various tissue and body fluid samples.
Cho-Chung et al teach the use of nucleic acid in the therapy of neoplasia with specific reference to anti-sense oligonucleotides. The disclosure of Cho-Chung et al inherently teaches a method of identifying potential candidates that will bind to the CSGs in prostate cancer.

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Olsson et al (1997) and Cho-Chung et al (1993).The claims are drawn to methods of diagnosing, staging and monitoring the metastatic potential of prostate cancer by identifying or detecting an increase in CSGs or cancer specific genes, in a patient wherein the CSGs comprise the SEQ IDs recited in the claims. The claims are also drawn to a method of identifying therapeutic agents that bind to the said CSGs. Olsson et al teach the diagnosis, staging, monitoring metastasis of prostate cancer. Olsson et al teach that tumor cells exhibit abnormally rearranged or mutated genes that are not present in normal cells (these can be considered cancer specific genes). Olsson et al teach RT-PCR as well as quantitative RT-PCR technology as applicable to the above mentioned methods, and applying the technology to various tissue and body fluid samples.
Cho-Chung et al teach the use of nucleic acid in the therapy of neoplasia with specific reference to anti-sense oligonucleotides. (Continued on Supplemental Sheet.)

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

CLASSIFICATION:

The International Patent Classification (IPC) and/or the National classification are as listed below:
IPC(7): A61K 39/395, 48/00; C12P 19/34; C12Q 1/68; G01N 33/53, 33/574, 33/546, 33/567 and US Cl.: 424/130.1, 141.1, 155.1, 183.1; 435/6, 7.1, 7.23, 7.9, 91.2; 436/501, 504, 505, 547; 514/44; 536/23.5

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):
The disclosure of Cho-Chung et al inherently teaches a method of identifying potential candidates that will bind to the CSGs in prostate cancer. Though the above cited art do not specifically mention the SEQ ID Nos, it would have been obvious to one of ordinary skill in the art at the time of the invention to extend the methods wherein the PSA or PMSA have been replaced with the SEQ ID NOs recited in the claims. One of ordinary skill in the art would have been motivated to do so because the prior art teaches that cancer specific genes include any genes that are expressed by cancer cells and not by normal cells. Absent any unexpected results by the inclusion of the SEQ ID Nos recited in the claims , the use of these sequences in a method of diagnosing, staging and monitoring the metastatic potential of prostate cancer would have been obvious to do f or one of ordinary skill ion the art.

---------- NEW CITATIONS ----------
NONE

PATENT COOPERATION TREATY

PCT

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: JANE MASSEY LICATA
LAW OFFICES OF JANE MASSEY LICATA
66 E. MAIN STREET
MARLTON, NEW JERSEY 08053

Docket System ✓
Status Report ✓
Docket Book ✓
11/25/00 ANS

WRITTEN OPINION

(PCT Rule 66)

Date of Mailing *(day/month/year)*	25 OCT 2000
Applicant's or agent's file reference: DEX-0052	REPLY DUE within ONE months from the above date of mailing

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US99/24331	18 OCTOBER 1999	19 OCTOBER 1998

International Patent Classification (IPC) or both national classification and IPC
Please See Supplemental Sheet.

Applicant
DIADEXUS LLC

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I [X] Basis of the opinion
- II [ ] Priority
- III [ ] Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV [ ] Lack of unity of invention
- V [X] Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI [ ] Certain documents cited
- VII [ ] Certain defects in the international application
- VIII [ ] Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension., see Rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 *bis*.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 19 FEBRUARY 2001

Name and mailing address of the IPEA/US	Authorized officer
Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	GEETHA P. BANSAL
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0196

Form PCT/IPEA/408 (cover sheet) (July 1998)*

WRITTEN OPINION

International application No.
PCT/US99/24331

I. Basis of the opinion

1. With regard to the **elements** of the international application:*

[X] the international application as originally filed

[X] the description:
pages 1-46 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the claims:
pages 47-48 , as originally filed
pages NONE , as amended (together with any statement) under Article 19
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the drawings:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the sequence listing part of the description:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

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[ ] the language of publication of the international application (under Rule 48.3(b)).

[ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

[ ] contained in the international application in printed form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readable form.

[ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] The statement that the information recorded in computer readable form is identical to the writen sequence listing has been furnished.

4. [X] The amendments have resulted in the cancellation of:

[X] the description, pages NONE

[X] the claims, Nos. NONE

[X] the drawings, sheets/~~fig~~ NONE

5. [ ] This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*

WRITTEN OPINION

International application No.
PCT/US99/24331

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. statement

Novelty (N)	Claims	7	YES
	Claims	1-6	NO
Inventive Step (IS)	Claims	NONE	YES
	Claims	1-7	NO
Industrial Applicability (IA)	Claims	1-7	YES
	Claims	NONE	NO

2. citations and explanations

Claims 1-6 lack novelty under PCT Article 33(2) as being anticipated by Olsson et al (1997) and Cho-Chung et al (1993).

The claims are drawn to methods of diagnosing, staging and monitoring the metastatic potential of prostate cancer by identifying or detecting an increase in CSGs or cancer specific genes, in a patient. The claims are also drawn to a method of identifying therapeutic agents that bind to CSGs. Olsson et al teach the diagnosis, staging, monitoring metastasis of prostate cancer. Olsson et al teach that tumor cells exhibit abnormally rearranged or mutated genes that are not present in normal cells (these can be considered cancer specific genes). Olsson et al teach RT-PCR as well as quantitative RT-PCR technology as applicable to the above mentioned methods, and applying the technology to various tissue and body fluid samples.
Cho-Chung et al teach the use of nucleic acid in the therapy of neoplasia with specific reference to anti-sense oligonucleotides. The disclosure of Cho-Chung et al inherently teaches a method of identifying potential candidates that will bind to the CSGs in prostate cancer.

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Olsson et al (1997) and Cho-Chung et al (1993).The claims are drawn to methods of diagnosing, staging and monitoring the metastatic potential of prostate cancer by identifying or detecting an increase in CSGs or cancer specific genes, in a patient wherein the CSGs comprise the SEQ IDs recited in the claims. The claims are also drawn to a method of identifying therapeutic agents that bind to the said CSGs. Olsson et al teach the diagnosis, staging, monitoring metastasis of prostate cancer. Olsson et al teach that tumor cells exhibit abnormally rearranged or mutated genes that are not present in normal cells (these can be considered cancer specific genes). Olsson et al teach RT-PCR as well as quantitative RT-PCR technology as applicable to the above mentioned methods, and applying the technology to various tissue and body fluid samples.
Cho-Chung et al teach the use of nucleic acid in the therapy of neoplasia with specific reference to anti-sense oligonucleotides. (Continued on Supplemental Sheet.)

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

CLASSIFICATION:

The International Patent Classification (IPC) and/or the National classification are as listed below:
IPC(7): A61K 39/395, 48/00; C12P 19/34; C12Q 1/68; G01N 33/53, 33/574, 33/546, 33/567 and US Cl.: 424/130.1, 141.1, 155.1, 183.1; 435/6, 7.1, 7.23, 7.9, 91.2; 436/501, 504, 505, 547; 514/44; 536/23.5

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):
The disclosure of Cho-Chung et al inherently teaches a method of identifying potential candidates that will bind to the CSGs in prostate cancer. Though the above cited art do not specifically mention the SEQ ID Nos, it would have been obvious to one of ordinary skill in the art at the time of the invention to extend the methods wherein the PSA or PMSA have been replaced with the SEQ ID NOs recited in the claims. One of ordinary skill in the art would have been motivated to do so because the prior art teaches that cancer specific genes include any genes that are expressed by cancer cells and not by normal cells. Absent any unexpected results by the inclusion of the SEQ ID Nos recited in the claims , the use of these sequences in a method of diagnosing, staging and monitoring the metastatic potential of prostate cancer would have been obvious to do for one of ordinary skill ion the art.

———— NEW CITATIONS ————

NONE

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/24331

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :Please See Extra Sheet.
US CL :Please See Extra Sheet.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/130.1, 141.1, 155.1, 183.1; 435/6, 7.1, 7.23, 7.9, 91.2; 436/501, 504, 505, 547; 514/44; 536/23.5

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Medline, Biosis, Embase, Cancerlit, Scisearch, WPIDS, USPATFULL
search terms: CSG, cancer specific gene, cancer, diagnosis

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Database SCISEARCH, Accession Number 307617, OLSSON et al. Reverse transcriptase-polymerase chain reaction assays for prostate cancer. Urologic Clinics of North America. May 1997, Vol. 24 No. 2, pages 367-&.	1-6
Y	CHO-CHUNG et al. Antisense Oligonucleotides for the treatment of cancer. Current Opinion in Therapeutic Patents. 1993, Vol. 3, No. 12, pages 1737-1750, see entire document.	1-6
A,E	BUSSEMAKERS et al. DD3: A new prostate-specific gene, highly overexpressed in prostate cancer. Cancer Research. 01 December 1999, Vol. 59, No. 23, pages 5975-5979.	1-7

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 10 FEBRUARY 2000	Date of mailing of the international search report 07 MAR 2000
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer GEETHA P. BANSAL Telephone No. (703) 308-0196

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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER:
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A61K 39/395, 48/00; C12P 19/34; C12Q 1/68; G01N 33/53, 33/574, 33/546, 33/567

A. CLASSIFICATION OF SUBJECT MATTER:
US CL :

424/130.1, 141.1, 155.1, 183.1; 435/6, 7.1, 7.23, 7.9, 91.2; 436/501, 504, 505, 547; 514/44; 536/23.5